

# Quick Installation Guide

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## SURFboard® Wireless Cable Modem Gateway SBG1000



A **home network** enables you to access and move information between two or more computers in your home or business. You can connect your home network to your cable TV system to connect to the Internet.

Your SURFboard Gateway SBG1000 is the central **connection point** between your **computers** and the **Internet**. It directs (routes) information between the computers connected to your home network. A built-in **cable modem** transmits information between your home network and the Internet.

The SBG1000 provides different **network connection types**. You can use a wireless or a wired connection (or a combination of the two) to connect your computers to the SBG1000. Your network can use one or any combination of:

- **Ethernet local area network (LAN)**
- **Wireless LAN (WLAN)**
- **Universal Serial Bus (USB)**
- **Home Phoneline Networking Alliance (HPNA)**

This guide provides information about:

- Optional accessories and network requirements
- Cable, Ethernet, USB, wireless, and printer connections
- Starting the Setup Program
- Introduction to network security and gaming configuration
- Troubleshooting and contact information

This guide contains an overview *only*. For in-depth information, refer to the interactive *SBG1000 User Guide* on the *SBG1000 Installation* CD-ROM. If desired, you can print all or part of the user guide.

## Optional Accessories

All networks are composed of multiple devices. An SBG1000 works with any IEEE 802.11g or IEEE 802.11b compliant client product. Motorola supplies a range of accessories for use with the SBG1000. Some examples are:



Motorola Wireless  
Ethernet Bridge  
WE800G



Motorola Ethernet  
Broadband Router  
BR700



Motorola Wireless  
Notebook Adapter  
WN825G



Motorola Wireless  
PCI Adapter  
WPCI810G

For more information about Motorola cable modems, gateways, and related consumer broadband products, visit <http://broadband.motorola.com/consumers>.

## Basic SBG1000 Network Requirements

- An **SBG1000**
- A **connection** to your cable TV system
- A **subscription** to cable modem service from your cable TV provider
- One or more **computers** with minimum:
  - Pentium-class processor or faster
  - 16 Mb of memory
  - 10 Mb of hard disk space available
  - Windows® 98, Windows® 98 SE, Windows Me®, Windows® 2000, Windows XP™, Macintosh®, or Linux® with operating system CD-ROM available
- A wired or wireless **network adapter** for each computer on the network
- For wired connections, **Ethernet cables** (one is provided with the SBG1000)

We recommend plugging the SBG1000 into a surge protector.

## Connecting the SBG1000

To connect to **Ethernet** or **USB** on a PC running a supported Windows version, perform the procedures in the following sections in this guide:

**Ethernet**      A, B, and E

**USB**            A, C, and E

**Wireless**      A, D, and E

For Macintosh or Linux computers, follow the instructions in the *SBG1000 User Guide* and the operating system documentation.

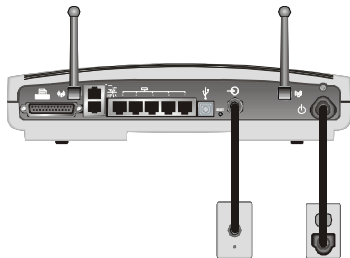
## A. Connect the SBG1000 to Your Cable TV System

You may need to call your cable provider to activate your high-speed Internet service. Your cable provider may require the MAC address labeled **CM HFC MAC ID** on the bottom of the SBG1000. Please write your CM HFC MAC ID here:

00 : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_

### Connecting Directly to the Cable Outlet

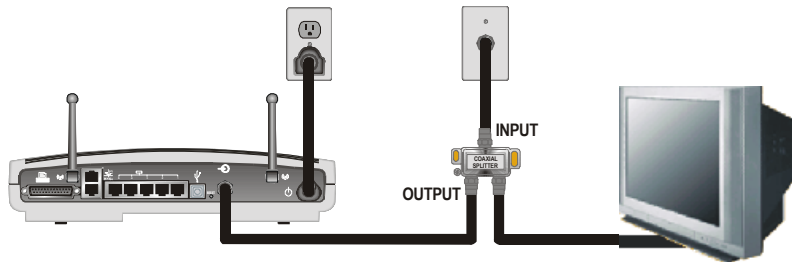
- 1 Connect one end of the coaxial cable to the cable TV wall outlet and its other end to the cable port on the SBG1000.
- 2 Plug the AC power cord into the power connector on the SBG1000.
- 3 Plug the AC power cord into an AC wall outlet or surge protector.



## Connecting to the Cable Outlet Using a Splitter

Connecting an SBG1000 to the same cable outlet as a TV requires a 5 to 900 MHz splitter and two additional coaxial cables.

- 1 Check that one end of the coaxial cable is connected to the cable TV outlet.
- 2 Disconnect that cable from the back of your TV and connect it to the splitter input.
- 3 Use one coaxial cable to connect the splitter output to your TV.
- 4 Use the other coaxial cable to connect the splitter output to the **CABLE** port on your SBG1000.

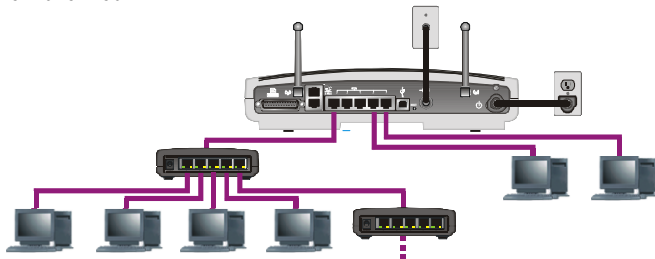


## B. Ethernet Connections

Computers using the Ethernet connection require an Ethernet adapter installed and a wired connection to the SBG1000.

- 1 If you purchased your Ethernet adapter separately, install the Ethernet hardware and driver software according to the manufacturer's instructions.
- 2 Plug one end of the Ethernet cable into the Ethernet port on the computer.
- 3 Plug the other end into the **ETHERNET** port on the SBG1000 or an Ethernet hub or switch connected to the SBG1000, as shown in the illustrated sample LAN.
- 4 Restart your computer to obtain an IP address. Follow the instructions in the *SBG1000 User Guide*.

### Sample Ethernet LAN



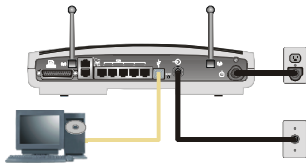
Add additional hubs or switches for further expansion.

You can connect up to 255 computers to Ethernet hubs or switches connected to the SBG1000. Detailed information about network cabling is beyond the scope of this document or the *SBG1000 User Guide*.

## C. USB Connection

You can connect one PC running Windows 98, Windows Me, Windows 2000, or Windows XP to the SBG1000 USB port. The USB connection requires special driver software supplied on the *SBG1000 Installation* CD-ROM.

- 1** Insert the *SBG1000 Installation* CD-ROM into the CD-ROM drive. *Be sure the SBG1000 is not connected to your PC.*
- 2** Connect the SBG1000 to the cable TV system as described in Section A.
- 3** Install the USB driver software and restart your PC.
- 4** Connect the USB cable to the USB port on the SBG1000. Connect its other end to the USB port on the PC.



If you experience problems with the USB connection, uninstall the USB driver following the instructions in the *SBG1000 User Guide*.



## D. Wireless Network Setup

Computers using the wireless connection require a compatible wireless adapter installed. The adapter type depends on whether the computer has a USB port, PCI slot, or credit-card-sized PCMCIA slot.

To provide an initial wireless connection to your network and the Internet:

- 1 Connect the SBG1000 to the cable TV system as described in Section A.
- 2 On each wireless client computer, install the wireless adapter hardware and driver software according to the manufacturer's instructions.
- 3 On each wireless client computer, set up a wireless adapter profile to “connect” the client to the SBG1000. The procedure depends on your wireless adapter and computer operating system.

In your initial profile, use the SBG1000 default wireless Network Name (ESSID) **motorola** (case-sensitive).

Your computers are connected but not secure.



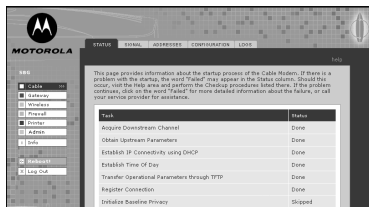
*The default SBG1000 settings provide no wireless security. After your wireless LAN is operational, be sure to enable security as described in “Setting Up the Wireless LAN” in the SBG1000 User Guide.*

## E. Start the SBG1000 Setup Program

- 1 On a computer wired to the SBG1000 USB or Ethernet port, open your web browser (for example, Microsoft Internet Explorer or Netscape Navigator®).
- 2 Type `http://192.168.100.1` and press **ENTER** to display the login window:



- 3 In the **User ID** field, type **admin** (case sensitive) and press **TAB**.
- 4 In the **Password** field, type **motorola** (case sensitive) and click **Log In** to display the SBG1000 Setup Program main window:



## Network Security

The SBG1000 firewall and wireless security measures are disabled by default. For normal operation, you do not need to change most default settings, except for the password, firewall, and wireless security.



*The default SBG1000 settings provide no security for data or protection from Internet attacks. We recommend protecting your network as described on this page.*

As soon as your network is operational, run the SBG1000 Setup Program to:

Task	In User Guide, see
<b>Change the default password</b> to prevent unauthorized configuration.	“Changing the Default Password”
<b>Enable the firewall</b> to protect your LAN from Internet attacks. Choose the most secure policy possible for your applications.	“Setting the Firewall Policy”
If you are only using wired Ethernet or USB connections (there are no wireless clients), <b>disable the wireless interface</b> to prevent unauthorized use.	“Wireless Network Setup”
For a LAN with one or more wireless clients, <b>enable wireless security</b> on the SBG1000.	“Wireless Network Setup”

After enabling wireless security on the SBG1000, as required on each wireless client:

- If you disabled ESSID broadcasting on the SBG1000, set the client Network Name (ESSID) identical to the ESSID on the SBG1000.
- If you enabled WEP on the SBG1000, set the client WEP key identical to the WEP key on the SBG1000.
- If you enabled Allow Only Listed Stations Access, be sure the MAC address for each client is correctly listed on the SBG1000.

## Configuration for Gaming

**Firewall:** By default, the SBG1000 **Firewall** is disabled. If you enable the SBG1000 firewall, see the game manufacturer's documentation to ensure the necessary ports are open for use by that game. If *low* security policy is enabled, the SBG1000 can pass Xbox Live™ by default and no user action is required. If *medium* or *high* security policies are enabled, the firewall must be configured for X-Box Live traffic. Xbox Live requires UDP 88:88 and UDP/TCP 3074:3074.

**Port Triggering:** The SBG1000 has pre-defined port triggers supporting:

*DirectX® 7 and DirectX® 8      MSN Games by Zone.com      Battle.net®*

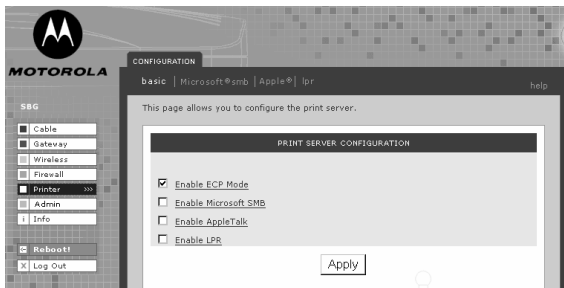
If your game uses one of these applications, no user action is required. For a list of games supported by Battle Net, visit <http://www.battle.net>. You can also configure custom port triggers that other games may require to operate properly. If you set custom port triggers and enable the firewall, you must configure the firewall to allow traffic through those ports.

**Gaming DMZ:** Some games and game devices require the use of random ports or the forwarding of unsolicited traffic. We recommend configuring such a device as a Gaming DMZ device. First reserve a private IP address for that device's network interface MAC address and then designate it as a DMZ device. You can reserve IP addresses for multiple devices, but only one device at a time can be the Gaming DMZ. To connect a PlayStation® 2 for PS®2 on-line gaming, assign it as the Gaming DMZ because the ports required vary from game to game.

## Connecting the SBG1000 Print Server

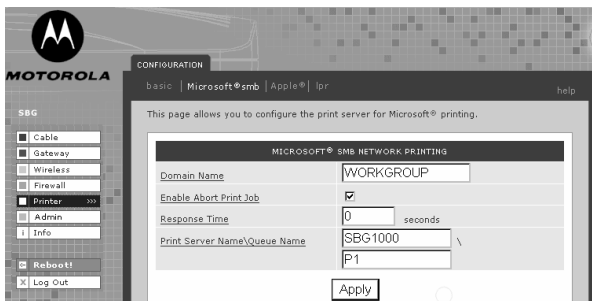
The print server enables all computers on your wired or wireless home network to print to a single printer connected to the SGB1000.

- 1 Connect your printer to the SBG1000. Use the parallel cable provided with your printer, or refer to the printer documentation for the correct cable.
- 2 Start the SBG1000 Setup Program as described in Section E. To configure the print server, click **Printer**:



*For a Windows computer, refer to steps 3 and 4 or for detailed procedures see the SBG1000 User Guide. For a Macintosh or Linux computer, refer to your computer user guide.*

- 3 Click the **Microsoft®smb** tab to display the SBG1000 Windows print server configuration:



- 4 To enable a Windows PC on the network to print to the SBG1000 printer, add and configure the SBG1000 printer in the Control Panel. The default SBG1000 settings are:

<b>Domain Name</b>	WORKGROUP
<b>Print Server Name\Queue Name</b>	\\SBG1000\P1

For computers on a corporate office network to use SBG1000 print server, the Domain Name on the SBG1000 and network computers must be the same as the Corporate Domain Name.

## Troubleshooting

If you experience a problem with the SBG1000, try the following:

- 1** Press the reset button on the rear panel. Resetting may take 5 to 30 minutes.
- 2** Refer to “Troubleshooting” in the *SBG1000 User Guide*.
- 3** If you still cannot resolve the issue, in the United States and Canada:
  - If you rent or lease your SBG1000** Contact your cable provider.
  - If you own your SBG1000** Call **1-877-466-8646** for technical and warranty support available 24 hours a day, 7 days a week.

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